

Claims

1. A method for producing a returnable package (11) having at least one deposit mark (12), in which a
5 recyclable object on which a deposit is to be charged is provided with at least one first, irremovable security feature (14) in which at least one further irremovable security feature (16) is applied to the object on which a deposit
10 is to be charged and which is provided with at least one first security feature (14), before, during and/or after the introduction of goods into the object on which a deposit is to be charged, the issue of said security feature being
15 predefined by a control system that is not accessible to the manufacturer of the returnable package (11), and in which the deposit value of the deposit mark (12) is generated by means of the combination of the at least one first and further
20 security feature (14, 16).
2. The method as claimed in claim 1, characterized in that, by means of the at least one first and further security feature (14, 16), at least one
25 item of information for detecting the authenticity of the returnable package (11) for a material circulation system is applied.
3. The method as claimed in claim 1 or 2,
30 characterized in that, by means of the at least one first and further security feature (14, 16), at least one item of information for detecting the amount of the deposit is applied.
- 35 4. The method as claimed in one of the preceding claims, characterized in that at least one security feature (14, 16) is formed as an open or visually detectable feature.

5. The method as claimed in claim 4, characterized in that the open security feature (14, 16) is formed as a bar code, imprint of a deposit value, of a deposit logo or information that can be detected by touch.
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6. The method as claimed in one of claims 1 to 3, characterized in that at least one security feature (14, 16) is formed as a feature that can be read with aids.
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7. The method as claimed in one of claims 1 to 3, characterized in that at least one security feature (14, 16) is formed as a machine-readable feature.
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8. The method as claimed in one of the preceding claims, characterized in that at least one security feature (14, 16) is at least partly transparent, translucent, phosphorescent, fluorescent, luminescent, UV-emitting and/or IR-emitting.
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9. The method as claimed in one of the preceding claims, characterized in that at least one security feature (14, 16) comprises substances in the form of Stokes pigments and/or anti-Stokes pigments.
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10. The method as claimed in one of the preceding claims, characterized in that at least one security feature (14, 16) which fluorescent security pigments with a rapid decay constant is applied.
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11. The method as claimed in one of the preceding claims, characterized in that the at least one deposit mark (12) is generated from at least one item of open information and/or an item of

information that can at least be read with aids and/or by machine.

- 5 12. The method according to one of the preceding claims, characterized in that the at least one first security feature (14, 16) is issued as a function of the at least one further security feature (16, 14) and vice versa.
- 10 13. The method as claimed in one of the preceding claims, characterized in that the at least one security feature (14) and the at least one further security feature (16) are formed with at least partly coincident, complementary and/or
15 superimposing items of information.
- 20 14. The method as claimed in one of the preceding claims, characterized in that at least one security feature (14, 16) is applied directly on or introduced directly in the object on which a deposit is to be charged.
- 25 15. The method as claimed in claim 14, characterized in that the at least one further security feature (16) is applied by means of direct printing on at least one part of the object on which a deposit is to be charged.
- 30 16. The method as claimed in one of claims 1 to 13, characterized in that at least one security feature (14, 16) is applied indirectly to the object on which a deposit is to be charged.
- 35 17. The method as claimed in claim 16, characterized in that the at least one first security feature (14) is applied on labels, closures of containers, can lids, decorative prints or crown corks.

18. The method as claimed in one of the preceding claims, characterized in that the at least one further security feature (16) is applied in an inline process of the returnable package (11).
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19. A method of implementing a returnable package system, a returnable package (11) being produced by a method as claimed in one of claims 1 to 18, characterized in that the at least one security feature (16) is applied by the marking unit (23).
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20. The method as claimed in claim 19, characterized in that the at least one further security feature (16) is applied by a marking unit (23) which receives from a control unit (22) a clock pulse which is derived from the conveying speed of the returnable package (11).
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21. The method as claimed in either of claims 19 and 20, characterized in that each issue of a further security feature (16) is passed on to a data-processing system (24) and at least partly stored.
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22. The method as claimed in one of claims 19 to 21, characterized in that a reader (26) is used to interrogate the security features (14, 16).
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23. The method as claimed in one of claims 19 to 22, characterized in that a reader (26) is connected after a marking unit (23) in the conveying direction (20) of the object on which a deposit is to be charged, and in that, by means of the reader (26), the at least one further security feature (16) applied is registered and passed on to a data-processing system (24).
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24. The method as claimed in one of the preceding claims, characterized in that at least the marking unit (23) for applying the at least one further

security feature (16) and the reader (26) are positioned at a short distance from each other.

- 5 25. The method as claimed in claim 24, characterized in that the distance between the marking unit (23) and the reader (26), in particular in a filling plant, is dimensioned to be less than three meters.
- 10 26. The method as claimed in one of claims 19 to 25, characterized in that the at least one further security feature (16) is applied without contact to the object on which a deposit is to be charged.
- 15 27. The method as claimed in one of claims 19 to 26, characterized in that the at least one further security feature (16) is applied by the marking unit (23) by means of a marking medium having security pigments.
- 20 28. The method as claimed in one of claims 19 to 27, characterized in that the number, the volume and/or the mass of the security features (16) applied is stored in a memory element arranged in
- 25 a container accommodating the marking medium.
- 30 29. The method as claimed in one of claims 19 to 27, characterized in that the number, the volume and/or the mass of the security features (16) applied is stored in a data-processing system (24).
- 35 30. The method as claimed in one of claims 19 to 29, characterized in that a code is assigned to the container accommodating the marking medium for forming the at least one further security feature (16).

31. The method as claimed in one of claims 29 to 30,
characterized in that, when the empty containers
are replaced by full containers, data from the
data-processing system (24) is transmitted from a
5 filler (36) to a clearing authority (37).
32. The method as claimed in one of claims 19 to 30,
characterized in that, when the empty containers
are replaced by full containers, data from the
10 data-processing system (24) is transmitted to a
security provider (38).
33. The method as claimed in one of claims 19 to 30,
characterized in that the data in the memory
15 element of the containers returned to the security
provider (38) is read and checked by the security
provider (38).
34. The method as claimed in one of claims 19 to 30,
20 characterized in that a requirement for full
containers for the marking medium from the filler
(36) and/or the requested number of full
containers for the marking medium from the filler
(36) are registered and stored by a security
25 provider (38).
35. The method as claimed in one of claims 28 to 34,
characterized in that at least the data
transmitted directly by the filler (36) and at
30 least the data passed on by the filler (36) to a
clearing authority (37) are checked by a security
provider (38) by means of a plausibility check.
36. The method as claimed in claim 35, characterized
35 in that the plausibility check is carried out by
an EDP-based management system (44).
37. The method as claimed in either of claims 35 and
36, characterized in that, during the plausibility

- check, the number of further security features (16) issued and/or the volume and/or mass of the marking medium produced and filled into containers, the production of the containers and/or the identification and/or the number of control pulses from a control unit (22) for driving the marking unit (23) are checked.
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38. A returnable package having at least one deposit mark (12) which is produced by a method in which a recyclable object on which a deposit is to be charged is provided with at least one first, irremovable security feature (14), in which at least one further irremovable security feature (16) is applied to the object on which a deposit is to be charged and which is provided with at least one first security feature (14), before, during and/or after the introduction of goods into the object on which a deposit is to be charged, the issue of said security feature being predefined by a control system that is not accessible to the manufacturer of the returnable package (11), and in which the deposit value of the deposit mark (12) is generated by means of the combination of the at least one first and further security feature (14, 16).
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